**SOLUTIONS: STOICHIOMETRY AND DILUTIONS QUIZ**

1. (a) A chemistry student has an unopened container of 0.500 kg of lead (II) nitrate. She wants to prepare 3.0 litres of a 0.50 mol/L stock solution of lead (II) nitrate. Does she have enough of the solid reagent to do this (show your work)?

(b) What volume of her stock solution should she dilute in order to obtain a 400 mL solution of 0.1 mol/L concentration?

2. 2.0 grams of aluminum sulphate are dissolved in 30.0 mL of distilled water. The solution is mixed with 55.0 mL of 0.6 mol/L barium iodide. What mass of solid barium sulphate is produced, according to the following equation?

Al2(SO4)3(aq) + 3 BaI2(aq) → 3 BaSO4(s) + 2 AlI3(aq)